

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. \_\_\_\_\_

WASTE DISCHARGE REQUIREMENTS  
FOR  
VINTAGE PRODUCTION CALIFORNIA LLC  
KERN FRONT OIL FIELD  
KERN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Water Board) finds that:

*BACKGROUND*

1. Vintage Production California LLC (Vintage), a subsidiary of Occidental Petroleum Corporation (hereafter Discharger), submitted a Report of Waste Discharge (RWD), dated 16 May 2001, and applied for a permit renewal to discharge produced water under the National Pollutant Discharge Elimination System (NPDES). The discharge of produced water occurs at its treatment facilities in the Kern Front Oil Field to a series of unlined ditches that ultimately converge and empty to an unlined channel. The ditches and channel are proximal to, and within, the natural drainage courses of the area and were previously considered a water of the United States (U.S.). Information supplementing the RWD was provided by the Discharger on 28 May 2001, and amendments were submitted on 3 May 2004 and 19 March 2007. The discharge is currently regulated by Waste Discharge Requirements (WDRs) Order No. 96-277 (NPDES No. CA0083852), adopted by the Regional Water Board on 6 December 1996 and administratively extended by the Executive Officer on 19 November 2001. Order No. 96-277 authorizes a daily maximum discharge flow of 4.0 million gallons per day (mgd). The Discharger's recent RWD requests a significant decrease in the flow limit for the discharge along with an increase in discharge specifications for electrical conductivity (EC), chloride, and boron. Due to facility modifications, the Discharger also proposes reducing the number of discharge points from four to three.
2. The Kern Front Oil Field is approximately five miles long by three miles wide, near Oildale, Kern County. The oil field lies above the floor of the San Joaquin Valley in rolling foothills of the Sierra Nevada. The topographic relief ranges from 650 to 970 feet above sea level. The climate is dry with hot summers and mild winters. The primary land use in the area is oil production related.
3. The Discharger operates a total of 34 oil field leases within Sections 2, 10, 11, 14, 22, 23, and 26, T28S, R27E, MDB&M, as shown on Attachment **A**.
4. Oil and water produced from the 34 leases are collected in a network of underground pipelines. The separated oil is pumped via pipeline to oil storage facilities. Produced water from the oil field is either disposed via deep well injection, treated and routed via pipeline to Valley Waste Disposal Company's (VWDC's) Kern Front No. 2 treatment facility, or treated and discharged to a series of unlined ditches within the Fano,

Robinson B, and Star Robinson leases. The ditches ultimately converge and empty to a 1.5 mile unlined channel that was constructed near and within the natural drainage ways to convey the produced water to VWDC. The distance from the discharge points at the Fano, Robinson B, and Star Robinson leases to the channel are roughly 0.8, 0.4, and 0.2 miles, respectively. Portions of the channel are on federal land managed by the Bureau of Land Management. No sumps or open storage tanks are utilized in the treatment process.

5. The majority of separated produced water is currently routed via pipeline to VWDC. Produced water conveyed to VWDC is further treated and ultimately routed to the Cawelo Water District (CWD) to supplement irrigation supplies. The Discharger historically discharged produced water to VWDC via the unlined ditches and channel. When discharge to the unlined ditches occurs, over half of the discharged produced water is reportedly lost through infiltration and evaporation. The Discharger currently maintains WDRs No. 96-277 to discharge to the unlined ditches as a back-up disposal option at times when the pipeline to VWDC is not available. The Discharger had not regularly discharged to the ditches since July 2003, but recently resumed intermittent discharges to the ditches. The Discharger estimates that discharge to the ditches will occur approximately 40 days per year during times of pipeline maintenance or when discharge to VWDC is not available. The Discharger also disposes of a portion of its produced water using Class II injection wells regulated by the California Division of Oil, Gas, and Geothermal Resources.
6. Order No. 96-277 permits discharge at four locations originating from the Section 11 NTP, Robinson B, Star Robinson, and Fano leases. Since the time the existing Order was issued, the Discharger has consolidated the produced water from the Section 11 NTP site with the produced water from the Fano lease via pipeline. This has reduced the number of discharge points from four to three. Conveyance of treated produced water to VWDC via pipeline or ditches and channel now originate at the Fano, Robinson B, and Star Robinson leases.
7. Several oil producers reportedly built the ditches and the channel in the late 1940's to collect produced water for agricultural supply. The ditches generally follow the natural drainage topography. The channel begins in the southwest quarter of Section 22, T28S, R27E, MDB&M, as shown on Attachment B. The channel routes produced water to VWDC where produced water undergoes further treatment before it is conveyed to CWD Reservoir B. Produced water in Reservoir B is commingled with water from the Kern River and State Water Project, and groundwater, and used to irrigate about 35,000 acres of farmland within the CWD. Excess blended water in the CWD irrigation system may be periodically discharged to Poso Creek, a water of the United States.
8. The discharge from VWDC to CWD and Poso Creek is regulated by WDR Order No. R5-2006-0124 (NPDES Permit No. CA0081311).
9. The channel mingles with an unnamed intermittent stream (i.e., ephemeral drainage) on the north side of James Road near the Star Robinson lease. A small culvert diverts

storm water which may collect in the drainage from the north side of James Road to the south side of James Road. U.S. Geological Survey (USGS) topographic maps dated 1954 indicate that water entering the drainage on the south side of James Road would flow southwest under Highway 65 for approximately one mile and empty into an irrigation reservoir/tail water pond. A Regional Water Board staff inspection of February 2007 indicates that the drainage now terminates on the south side of James Road in a quarry (borrow pit). Also, this segment of the drainage is now interrupted by agricultural fields and roadways. As neither the ditches, channel, nor unnamed drainage are hydraulically connected to any waters of the U.S., discharges thereto are not subject to regulation under the NPDES program. Therefore, this Order does not renew the NPDES aspects of WDRs Order No. 96-277 and NPDES Permit No. CA0083852 will be terminated with rescission of WDRs Order No. 96-277.

10. The production areas that contribute to the discharge and the discharge points are depicted on Attachments **A** and **B**. The number, location, and name of each discharge point is as follows:

<u>Discharge</u>	<u>Treating Facility Name</u>	<u>Discharge Location</u>	<u>Contributing Leases</u>
001 (former DP1 and DP4)	Section 11 NTP and Fano	Section 23, T28S, R27E Lat: N35°30' Long: W119°02'30"	Section 2, Newhouse North, Newhouse South, Brown, Del Rey, Young Section 14, Wetmore, Fleischacker, KCL, Perseus, Section 10, Miller Fee, Section 11, Cole Section 26, Sill Section 26, McDonald, Section 14 (USL), Lenhardt, Young Section 23, Texaco Section 23, Lehmann Section 23, Ward, Strass Burger, Lightner, Grady, Kern Section 22, McDougall, and Fano
002 (former DP2)	Robinson B	Section 22, T28S, R27E Lat: N35°28'28" Long: W119°03'24"	Tegeler, Robinson A, and Robinson B
003 (former DP3)	Star Robinson	Section 22, T28S, R27E Lat: N35°28'30" Long: W119°03'39"	Star USL and Star Robinson

11. Since the time Order No. 96-277 was issued, the frequency and manner of produced water disposal practices have changed for the Discharger. In December 2001, produced water normally discharged from the Robinson B (DP2) and Star Robinson (DP3) leases was combined and rerouted to a deep injection well for disposal. In January 2002, produced water from the NTP (DP1) and Fano (DP4) leases were also

routed for deep well injection. In July 2003, the Discharger completed construction of a 12-inch pipeline to transport treated produced water from the Kern Front leases to the VWDC facility. The pipeline was reported to provide the capability of transporting all produced water to VWDC that is not otherwise injected. As of August 2003, discharge to the ditches was nearly eliminated but the discharge points were maintained for future use, if needed. As of the fourth quarter 2003, discharge point NTP (DP1) was eliminated and produced water from this lease was routed to the Fano (DP4) lease discharge. The combined discharge point was identified by the Discharger as DP1 in subsequent monthly monitoring reports. Beginning in November 2004, the Fano (formerly DP4, now known as DP1) discharge location was again utilized for disposal of treated produced water. Discharges were reported to occur in November 2004 and April 2005, and regular discharge from DP1 was reported to occur from February 2006 through at least December 2006. The following table provides a summary of the quality of the effluent (average values for available data) from each of the four discharge points as reported by the Discharger. The information includes the available monitoring data collected by the Discharger between January 2001 and December 2006 and provided in monthly self-monitoring reports submitted to the Regional Water Board.

#### Summary of Effluent Monitoring Data

<u>Constituent</u>	<u>Units</u>	NTP	Rob. B	Star Rob.	Fano	NTP/Fano
		<u>DP1<sup>1</sup></u>	<u>DP2<sup>2</sup></u>	<u>DP3<sup>3</sup></u>	<u>DP4<sup>4</sup></u>	<u>DP1/DP4<sup>5</sup></u>
Flow	mgd	0.31	0.29	0.10	0.15	0.16
EC	umhos/cm	798	1,473	1,382	918	838
Chloride	mg/L	74	64	42	75	79
Boron	mg/L	1.04	0.61	0.42	0.64	0.97
Oil & Grease	mg/L	17.8	14.2	8.0	17.1	15.8
pH	standard	7.48	7.65	7.56	7.51	7.28

1 - Average of data collected from January 2001 to July 2003.

2 - Average of data collected from January 2001 to November 2001.

3 - Average of data collected from January 2001 to November 2001.

4 - Average of data collected from January 2001 to December 2001.

5 - Average of data collected from November 2004 to December 2006.

12. The Discharger uses steam injection to assist in crude oil extraction. Increases in the price of crude oil over the past several years have made it economically feasible for the Discharger to employ steam more extensively in its oil extraction operations. Use of steam tends to leach salts such as chlorides and boron out of the formations, thus increasing the EC of produced water. The Discharger's increased production and use of steaming may increase the EC, chlorides, and boron in its produced water.
13. The Regional Water Board adopted the *Water Quality Control Plan, Second Edition, for the Tulare Lake Basin* (hereafter Basin Plan). The Basin Plan designates beneficial

uses, establishes water quality objectives, and contains implementation programs and policies to achieve water quality objectives for all waters of the Basin. These requirements implement the Basin Plan.

14. The Discharger submitted a 30 September 2003 *Basin Plan Demonstration Report for Oxy Kern Front Oil Field* (hereafter Demonstration), prepared by Houghton HydroGeo-Logic, Inc. (Houghton). Houghton utilized the SESOIL and AT123D computer models to examine the potential for the discharge to reach and impact the underlying groundwater. The intent of the study was to support salinity limits in excess of those explicitly allowed by the Basin Plan. Groundwater underlying the area of the discharge ranges in depth from 553 to 863 feet bgs. For the study, Houghton conservatively estimated that the depth to first encountered groundwater is 550 feet bgs. Two scenarios were evaluated, both assuming a total annual discharge of 250 million gallons. The first scenario assumed a constant discharge rate of 0.68 mgd for 365 days per year, while the second scenario assumed a discharge rate of 6.25 mgd for 40 days per year. Houghton concludes that in 50 years (10 times the duration of this Order), the constituents introduced by discharge of produced water by the Discharger will not reach first encountered groundwater. Houghton also expects there will be greater infiltration when discharge occurs year round at a lower flow rate than when discharge occurs at a higher flow rate for only a portion of the year.

#### *BENEFICIAL USES AND WATER QUALITY OBJECTIVES*

15. The unnamed intermittent streams in the discharge areas are considered Valley Floor Waters. For Valley Floor Waters in the Tulare Lake Basin, the applicable designated uses are agricultural supply (AGR), industrial service supply (IND), industrial process supply (PRO), water contact recreation (REC-1), non-contact water recreation (REC-2), warm freshwater habitat (WARM), wildlife habitat (WILD), rare, threatened, or endangered species (RARE), and ground water recharge (GWR).
16. The known beneficial uses of the unnamed intermittent streams are AGR (in the form of livestock watering), WARM, and WILD. The ditches and channel, which are proximal to and within the natural drainage course of the area and intermittent streams, are also considered to possess the AGR, WARM, and WILD beneficial uses.
17. The beneficial uses of the underlying groundwater, as designated in the Basin Plan, are municipal and domestic supply (MUN), AGR, IND, and REC-1.
18. Basin Plan water quality objectives to protect the beneficial uses of surface water and groundwater include numeric objectives and narrative objectives, including objectives for chemical constituents, toxicity, and taste and odor. The toxicity objectives require that waters be maintained free of toxic substances in concentrations that produce detrimental physiological responses in humans, plants, or animals. The chemical constituent objectives state waters shall not contain chemical constituents in concentrations that adversely affect any beneficial use or that exceed the maximum contaminant levels (MCLs) in Title 22, CCR. The Basin Plan requires that WDRs

protect all designated beneficial uses and implement the applicable water quality objectives.

19. State Water Board Resolution No. 68-16 (hereafter Resolution 68-16) requires the Regional Water Board, in regulating discharge of waste, to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water less in quality than that described in water quality policies. Resolution 68-16 requires that the discharge meet best practicable treatment and control (BPTC).
20. The Basin Plan contains water quality policies regarding disposal of oil field wastewater as follows:
  - Maximum salinity limits for wastewaters in unlined sumps overlying groundwater with existing and future probable beneficial uses are 1,000 umhos/cm EC, 200 mg/L chlorides, and 1.0 mg/L boron...
  - Discharges of oil field wastewater that exceed the above maximum salinity limits may be permitted to unlined sumps, stream channels, or surface waters if the discharger successfully demonstrates to the Regional Water Board in a public hearing that the proposed discharge will not substantially affect water quality nor cause a violation of water quality objectives.
21. The Basin Plan states that the maximum average annual increase in salinity measured as EC shall not exceed 6.0 umhos/cm per year for groundwater within the Poso Groundwater Hydrographic Unit. The Kern Front Oil Field is within the Poso Groundwater Hydrographic Unit.

#### *DISCHARGE SPECIFICATIONS*

22. **pH:** The Basin Plan numeric water quality criteria states that pH "...shall not be depressed below 6.5, raised above 8.3, or changed at any time more than 0.3 units from normal ambient pH." Discharge specifications for pH are included in this Order and are based on the Basin Plan objectives for pH.
23. **Oil and Grease:** As described in Finding No. 19, Resolution 68-16 requires the implementation of BPTC where a discharge constituent will degrade the receiving water. The Discharger, and oilfield dischargers in general, have been required to and have met, through implementation of appropriate treatment technology, an effluent limit of 35 mg/L for decades. Thus, a discharge specification of 35 mg/L for Oil and Grease can be considered BPTC and is appropriate for inclusion in this Order.
24. **Electrical Conductivity @ 25 °C (EC):** Order No. 96-277 requires that the EC of treated produced water discharged to the ditches not exceed daily maximums of 1,000 umhos/cm at DP1 (now combined with DP4), 1,650 umhos/cm at DP2 (Discharge 002), 1,590 umhos/cm at DP3 (Discharge 003), and 1,000 umhos/cm at DP4 (Discharge 001). The effluent limitations for DP2 and DP3 exceed Basin Plan policy for discharge of oil field wastewater to sumps, stream channels, or surface waters in the Tulare Lake Basin. The Discharger requested EC limits of 1,650 umhos/cm for each of

the three discharge locations (001, 002, and 003) and conducted a study to support the proposed EC discharge specifications. The Discharger's study did not show that the proposed discharge will not adversely affect water quality or cause a violation of water quality objectives and thus fails to make the necessary demonstration for exception. This Order does not authorize the EC limits requested by the Discharger. The Order continues, in essence, the flow-weighted average EC previously authorized for the three remaining discharge locations. The Order specifies a monthly average limit of 1,158 umhos/cm for the three combined discharge locations. Further, groundwater salinity will reflect an average of a discharge that fluctuates in salinity and the incremental water quality objective is on an annual basis. For these reasons, it is reasonable and appropriate to implement these oilfield discharge specifications as an annual average. The Discharger reports that discharge of treated produced water at the three proposed locations will only occur if the pipeline to VWDC is not available. The majority of any produced water that enters the ditches is reportedly lost to infiltration and evaporation. Also, groundwater beneath the ditches flows into CWD. Produced water that reaches VWDC (via the ditches/channel and/or pipeline) will undergo further treatment by VWDC (as required by Order No. R5-2006-0124) and may eventually be routed to CWD Reservoir B. CWD recently completed a technical study and demonstrated that treated produced water from VWDC with an annual average EC of 1,030 umhos/cm, and management of other salt sources for the most part, warrants an exception to the maximum EC limit specified in the Basin Plan.

25. **Chloride:** Order No. 96-277 requires that the concentration of chloride in the discharge not exceed a daily maximum of 100 mg/L for each of the four discharge points. The Discharger requested chloride specifications of 175 mg/L for each of the three proposed discharge locations (001, 002, and 003). This Order increases the effluent limitation for chloride for the three combined discharge locations to a monthly average of 200 mg/L. The 200 mg/L limit for chloride is consistent with the Basin Plan policy for discharge of oil field wastewater to sumps, stream channels, or surface waters in the Tulare Lake Basin.
26. **Boron:** Order No. 96-277 requires that the concentration of boron in the discharge not exceed daily maximums of 2.0 mg/L at DP1 (now combined with DP4), and maximums of 1.0 mg/L for DP2 (Discharge 002), DP3 (Discharge 003), and DP4 (Discharge 001). Although the limitation for DP1 exceeds the boron limit specified in the Basin Plan for discharge of oil field wastewater, discharge location DP1 has since been eliminated and is not a part of this Order. The Discharger requested raising the boron limits at Discharge 001, 002, and 003 to 2.0 mg/L. As described previously, the Discharger's study did not show that the proposed discharge will not adversely affect water quality or not cause a violation of water quality objectives. Therefore, this Order does not authorize the increase of boron limits requested by the Discharger. For the three combined discharge locations, this Order applies a monthly average boron limit of 1.0 mg/L. The discharge specification for boron is consistent with the Basin Plan policy for discharge of oil field wastewater to sumps, stream channels, or surface waters in the Tulare Lake Basin.



27. This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for Biostimulatory Substances, Chemical Constituents, Color, Floating Material, Oil and Grease, Sediment, Settleable Material, Suspended Material, Tastes and Odors, and Toxicity. As the produced water contains no pesticides or radioactivity, no limit for these constituents is necessary.
28. As the discharge is within the mass loading and on average equal to concentrations previously authorized, and will not result in exceedance of a water quality objective or impact on beneficial uses, it is consistent with Resolution 68-16.
29. The intent of the Basin Plan for controlling salinity degradation of both surface and groundwater is to minimize discharge of salinity to the extent reasonable considering careful use and management of water resources. It is reasonable to expect that salinity may increase in the discharge with increased oil production and/or use of steam, and that it is reasonable to implement salinity limits consistent with the Basin Plan for oilfield discharges to facilitate recovery of oil. However, to the extent that salinity is controllable, it is reasonable and appropriate that it be done to meet the intent of the Basin Plan. It is appropriate that the Discharger complete a Salinity Evaluation and Minimization Plan to discover whether there are opportunities for salinity reductions.

#### GENERAL

30. Section 13267 of the California Water Code states, in part, “(a) A regional board, in establishing... waste discharge requirements... may investigate the quality of any waters of the state within its region” and “(b)(1) In conducting an investigation..., the regional board may require that any person who... discharges... waste... that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.” The attached Monitoring and Reporting Program is issued pursuant to California Water Code Section 13267 and is necessary to determine compliance with these waste discharge requirements. The Discharger is responsible for the discharges of waste at the facility subject to this Order. Monitoring is required by this Order for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional limitations.
31. Information in the attached Information Sheet was considered in developing the Findings of this Order. The Information Sheet, Monitoring and Reporting Program No. [REDACTED], and Attachments A through C are a part of this Order.
32. Pursuant to California Water Code Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.



33. The action to adopt this Order is exempt from the provisions of CEQA (Public Resources Code Sections 21100-21177), pursuant to Title 14 California Code of Regulations Section 15301, Class 1 exemption for existing facilities with no expansion of existing use.
34. The Discharger and interested agencies and persons were notified of the intent to prescribe waste discharge requirements for this discharge and provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
35. All comments pertaining to the discharge were heard and considered in a public meeting.

**IT IS HEREBY ORDERED** that Order No. 96-277, NPDES Permit No. CA0083852, is rescinded, and pursuant to CWC Sections 13263 and 13267, Vintage Production California LLC, its agents successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

**A. Discharge Prohibitions:**

1. Discharge of other than treated produced water at a location and manner described in Findings No. 1 through 35 and approved herein is prohibited.
2. Bypass and overflow of untreated produced water to the three discharge locations is prohibited.
3. Discharge of treated produced water, at times other than when transport by pipeline to VWDC is not available, is prohibited.
4. Discharge of waste classified as 'hazardous' as defined in Section 2521(a) of Title 23, CCR, Section 2510, et seq., is prohibited.
5. Discharge of waste classified as 'designated' as defined in CWC Section 13173, except as allowed by valid waste discharge requirements, is prohibited.
6. Neither the discharge nor its treatment shall create a condition of pollution or nuisance as defined in Section 13050 of the California Water Code.

**B. Discharge Specifications:**

When discharge of treated produced water occurs at the authorized Discharge locations 001, 002, and/or 003, the discharge shall not exceed the following limits:

1. The combined daily maximum discharge flow of produced water to Discharge 001, 002, and 003 shall not exceed 2.75 mgd.

2. Produced water discharged at 001, 002, and 003 (individually or combinations thereof) shall not contain EC, chloride, boron, and oil and grease which exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Annual Average</u>
Electrical Conductivity	umhos/cm	1,158	1,030
Chloride	mg/L	200	--
Boron	mg/L	1.0	--
Oil and Grease	mg/L	35	--

3. Produced water discharged at 001, 002, and 003 shall not have a pH less than 6.5 or greater than 8.3.

**C. Applicable Receiving Water Limitations:**

The discharge shall not cause the following in the receiving waters:

1. **Biostimulatory Substances.** Biostimulatory substances that promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
2. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
3. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
4. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
5. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
6. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
7. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

8. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
9. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to domestic or municipal water supplies.
10. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

**D. Groundwater Limitations:**

The discharge shall not cause greater salinity degradation of the underlying groundwater than authorized by salinity discharge specifications and provisions specified herein.

**E. Provisions:**

1. The Discharger shall comply with all the items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements," dated 1 March 1991, which are a part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provisions."
2. The Discharger shall comply with Monitoring and Reporting Program No. [REDACTED], which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
3. The treatment facilities shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.
4. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, Sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
5. Exceedances of monthly average and/or daily maximum effluent limitations based on results of a single sampling event may be considered violations of the requirements of this Order. The Discharger may sample more frequently than

- required by the attached Monitoring and Reporting Program to provide a more representative database and possibly lower reported average constituent values to demonstrate compliance with effluent limitations.
6. As a prerequisite to consideration of any increases in the volumes or waste concentrations of discharges of oilfield produced water to the ditches above what is authorized in this Order, the Discharger must conduct a study to evaluate and quantify the impacts of such discharges on both the general environment and on groundwater and demonstrate that the combined effects of such discharges comply with the Basin Plan and satisfy CEQA. At a minimum the study must:
    - a. Quantify all potential sources of waste constituents (volumes, concentrations, and loadings) discharged into the ditches;
    - b. Quantify projected concentrations of waste constituents (including EC, chloride, and boron) in groundwater underlying the ditches;
    - c. Quantify the gross annual rate of increase of waste constituents in groundwater. Projected annual increases should be based on the results of appropriate and validated mass balance/groundwater/surface water models; and
    - d. Demonstrate that the proposed discharge will result in compliance with the Basin Plan, Resolution 68-16, and CEQA.
  7. The Discharger shall report to the Regional Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act" of 1986.
  8. The Discharger shall prepare a salinity evaluation and minimization plan to address sources of salinity from the Facility and to discover whether there are opportunities for salinity reductions. The plan shall be completed and submitted to the Regional Water Board **within nine months of the effective date of this Order** for approval by the Executive Officer.
  9. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for

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compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on \_\_\_\_\_.

\_\_\_\_\_  
PAMELA C. CREEDON, Executive Officer

DAM: 6/7/07